

South Florida Water Management District



STORMWATER TREATMENT AREA 3/4

Pollution Prevention Plan

December 2, 2003

**Submitted in accordance with the Everglades Forever Act,
§373.4592, Fla. Stat., and the State of Florida's
National Pollutant Discharge Elimination System Program,
§403.0885, Fla. Stat.**



I. BACKGROUND

The South Florida Water Management District (District), in accordance with the 1994 Everglades Forever Act (EFA), §373.4592, Florida Statutes (F.S.), and an agreement with the federal government, is implementing the Everglades Construction Project (ECP) in an effort to restore the quality of the water entering the Everglades Protection Area (EPA). The ECP consists of the construction of a number of treatment marshes (Figure 1), which will use natural physical, chemical, and biological processes to remove excess nutrients, including total phosphorus (TP), from stormwater runoff and other sources prior to discharge into the EPA. Stormwater Treatment Area-3/4 (STA-3/4) is one of the six marshes being constructed as part of the ECP (Figure 2), and is the subject of this Pollution Prevention Plan (PPP).

II. MISSION STATEMENT

The District recognizes that stormwater runoff from the Everglades Agricultural Area (EAA) within the S-7/S-2 and S-8/S-3 Basins and other sources contain excessive levels of phosphorus. The District also recognizes the long-term need to improve the timing, distribution and volume of inflow (collectively referred to as hydropattern) along the currently over drained northwest portion of East Water Conservation Area 3A (WCA-3A). In addition, localized water quality problems in Lake Okeechobee associated with discharges from special drainage districts adjacent to the Lake can be reduced by diverting approximately 80% of these discharges for treatment in STA-3/4. Therefore the District is dedicated to implementing the STA-3/4 Project in order to reduce levels of phosphorus and on a secondary level, to assist in reducing water quality problems in Lake Okeechobee, to the maximum extent practicable.

III. PURPOSE

This PPP provides a summary of normal operations for STA-3/4, and describes factors, which may impact those operations. STA-3/4 shall be operated in accordance with this document to achieve the design objectives of the ECP for phosphorus and reduce adverse impacts to downstream water quality conditions in the EPA.

This PPP is based upon information from (a) the Conceptual Design Document for the Everglades Protection Project, dated February 15, 1994, (b) the November, 1995 *General Design Memorandum for Stormwater Treatment Area No.3/4 and East WCA-3A Hydropattern Restoration*, (c) Bums and McDonnell July 2000 *Plan Formulation*, Bums and McDonnell August 2000 *Design Criteria*, (d) Bums and McDonnell August 2000 *Plan Implementation* document (e) Rule 40E-63 of the Florida Administrative Code, (F.A.C) the STA optimization research plan, (RAM 5), and (g) and operational experience from the existing STAs. By operating in accordance with these documents, the objectives of the ECP for phosphorus will be achieved, in accordance with the EFA, §373.4592(9)(e) and (9)(h), F.S.

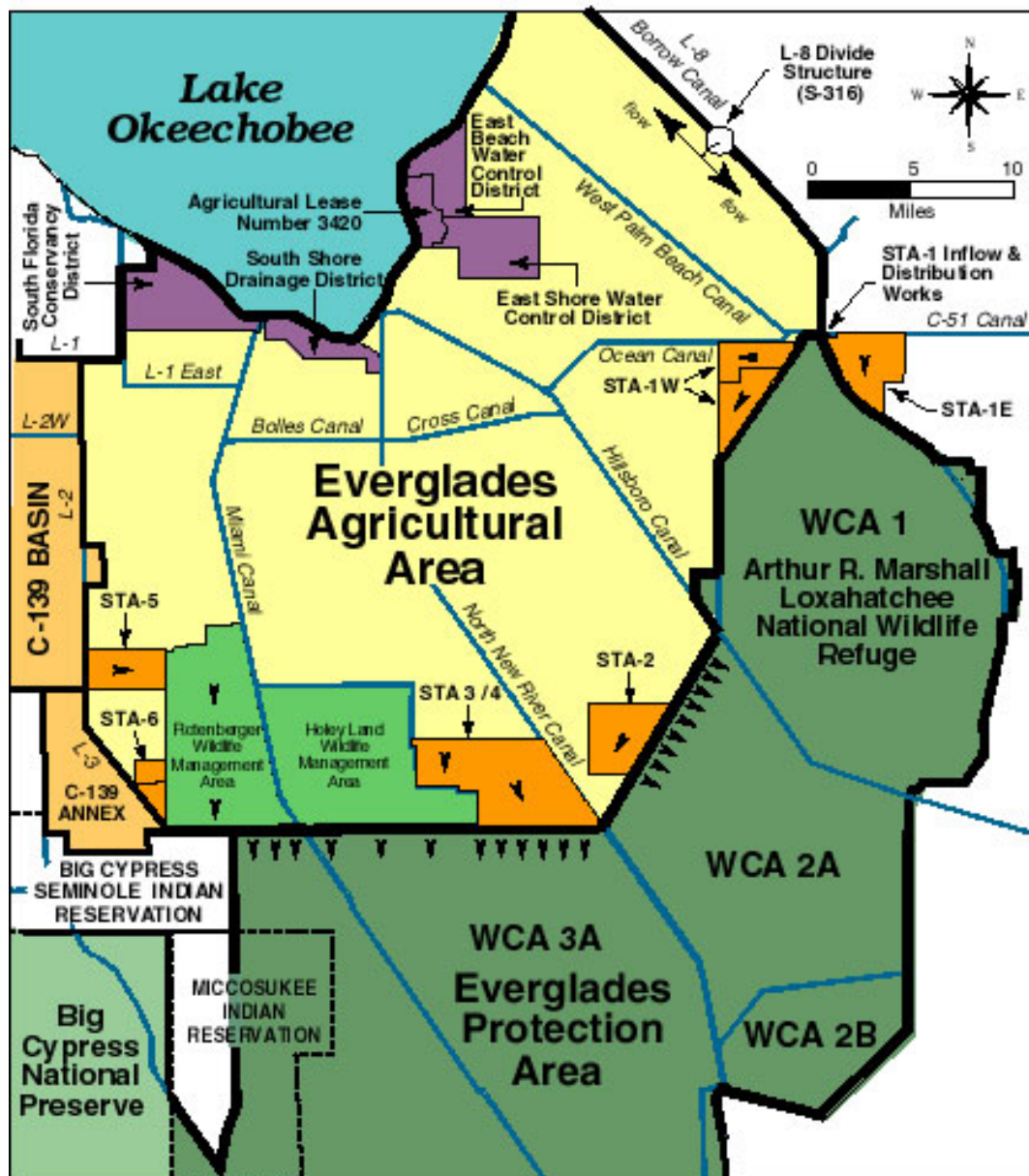


Figure 1



STA-3/4 is a dynamic system, subject to variation in rainfall, hydraulic and nutrient loading, inflow water quality and interior vegetative conditions. As a result, this PPP is only intended to provide an understanding of the range of conditions under which the STA-3/4 system has been designed and will be operated. This document is NOT intended to reflect absolute limitations upon operation of STA-3/4; instead, system operation will at all times require District operating personnel to exercise their best professional judgment based upon existing regional and on-site conditions and data available at the time. The specific operating criteria for each structure will be described in the STA-3/4 Operational Plan.

While this document characterizes the operational expectations for STA-3/4, it also recognizes that operation may fluctuate outside of these predefined ranges. For example, extreme storm events could result in inflows to the STA which exceed the system's hydraulic and treatment capacity. As a result, the PPP describes measures that will be taken by operators in order to minimize any adverse impacts that could occur within and downstream of the STA under those circumstances.

Average annual flow volumes presented in this document are from South Florida Water Management Model simulation "BASERR2R", and the basin specific feasibility study, preliminary alternative combinations for ECP basins, October 23 2002. Average annual phosphorus loads are estimates derived from combining the simulated flow volumes with historic water quality data.

IV. OBJECTIVES

In accordance with the Conceptual Design Document for the Everglades Protection Project, dated February 15, 1994, the primary objectives of the ECP include the following:

**A. ACHIEVE A LONG-TERM ANNUAL FLOW-WEIGHTED INTERIM TP
DISCHARGE CONCENTRATION OF 50 PPB**

STA-3/4 is designed to, acting in combination with implementation of BMPs as required under the Rule 40E-63 F.A.C., reduce the long-term, flow-weighted average total phosphorus concentration in discharges from the S-7/S-2 and S-8/S-3 Basins (and to a lesser extent, contributions from other sources) to the interim goal of 50 parts per billion (ppb) prior to discharging into the EPA. The design of STA-3/4 was based on a 31-year annual average of flows and phosphorus loads (1965-95), and it is estimated that STA-3/4 will capture and treat an average annual inflow volume of 660,889 acre-feet and 72,019 kilograms of total phosphorus. Of this total, an estimated 212,611 acre-feet and approximately 34,300 kilograms total phosphorus will be contributed by the S-7/S-2 Basin. An estimated 187,579 acre-feet and approximately 23,160 kilograms total phosphorus will be contributed by the S-8/S-3 Basin. Further, the design assumed and



included approximately 232,273 acre-feet and 19,660 kilograms total phosphorus will be contributed by Lake Okeechobee regulatory releases. In addition, approximately 14,719 acre-feet and 2,730 kilograms total phosphorus will be contributed by the C-139 Basin at G-136.

B. SUPPLY BMP MAKE-UP WATER

STA-3/4 will be operated to the maximum extent practical to offset reductions in volumetric discharges to the EPA resulting from the implementation of the EAA BMP Program. Replacement water will be provided from Lake Okeechobee and distributed to the STAs. However, actual volumes sent to each STA cannot be quantified in advance since the quantities depend on temporal and spatial variables: the annual reduction in discharge due to BMP implementation, available treatment capacity in each STA, and water conditions in the downstream water conservation areas.

C. REDUCE LOCALIZED WATER QUALITY PROBLEMS IN LAKE OKEECHOBEE

STA-3/4 will be operated to the maximum extent practical to provide water quality treatment for diversions from the South Shore Drainage District (SSDD) and the South Florida Conservancy District (SFCD). These areas currently discharge into Lake Okeechobee. The design of STA-3/4 assumed approximately 13,707 acre-feet and 2,170 kilograms total phosphorus will be contributed by SSDD and SFCD.

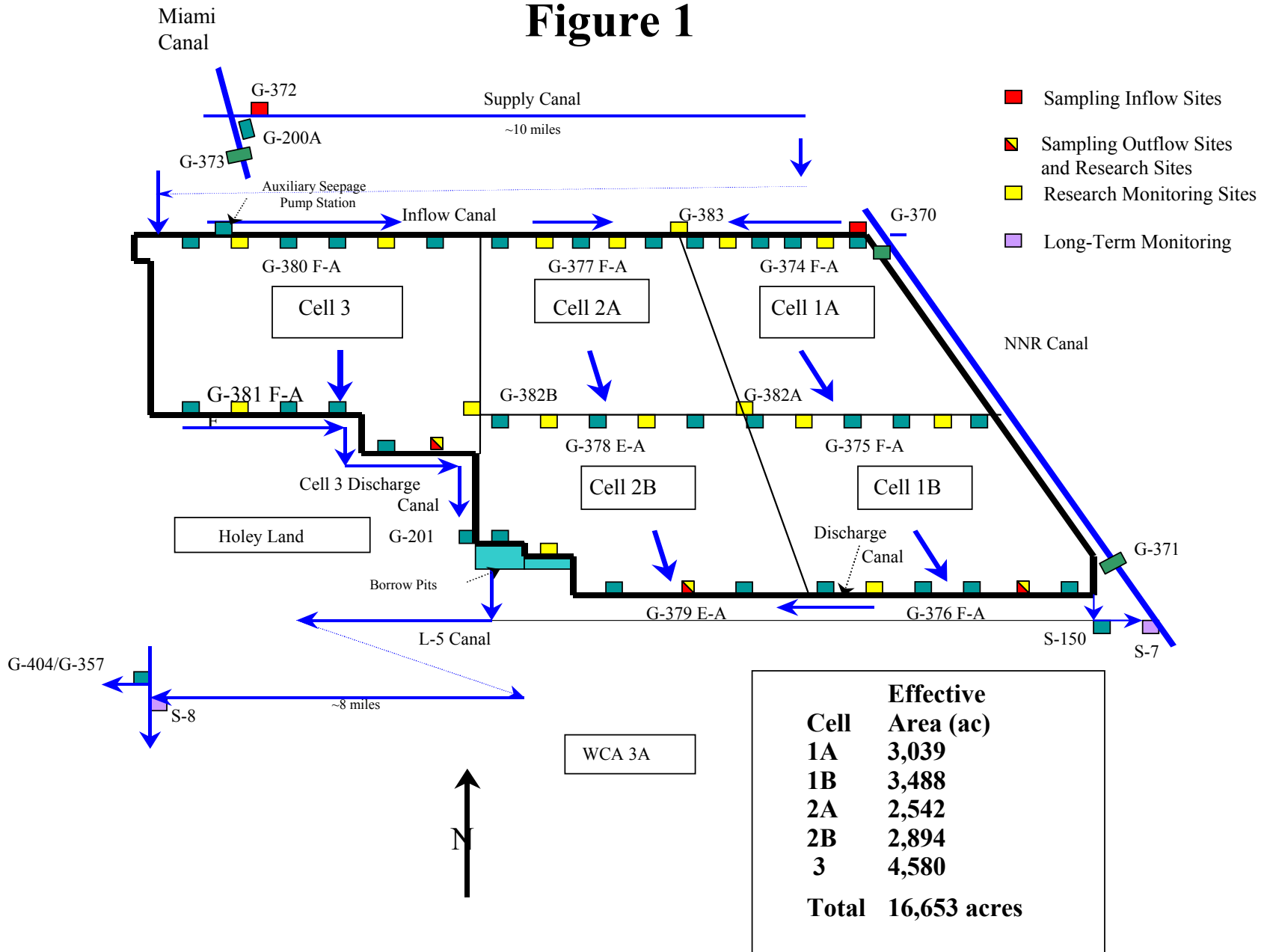
D. HYDROPATTERN RESTORATION

While not part of the current permit and after long-term water quality solutions are in place (target date of 12/31/06), it is anticipated that the L-5 borrow canal levee will be degraded to allow a uniform distribution of treated water along the northern boundary of WCA-3A. STA-3/4 will be operated to the maximum extent practical to improve the quality, timing and distribution of water entering the northern portion of East WCA-3A (WCA-3A). Treated water will be distributed across the boundary between WCA-3A and STA-3/4 to re-establish sheet flow to the region, a characteristic that was drastically altered with the completion of the Central and Southern Flood Control Project.

V. ACTION PLAN

The District intends to meet the design objectives of the STA-3/4 project to comply with the EFA, §373.4592(9)(e) and §373.4592(9)(h) 1, F.S., by operating within the normal operational guidelines established in subsection (V.A), below. However, the STA-3/4 Project and the ECP were not designed to operate under all possible conditions. For example, extreme storm events could create conditions that would necessitate the District to partially divert flows from the STA-3/4 treatment system in order to prevent damage to the structural and vegetative integrity and prevent upstream flooding. Accordingly, subsection (V.B) describes circumstances requiring deviation from those normal

Figure 1





operational guidelines. The specific operating criteria for each structure will be described in the STA-3/4 Operational Plan. Subsection (V.C) provides details on the operation of STA-3/4 during the interim period when some, but not all, of the individual STAs components were functional. Finally, subsection (V.D) provides information on the District's research program directed at improving the treatment efficiency of the STAs.

A. STA-3/4 NORMAL OPERATIONAL GUIDELINES

As stated in section (IV.A) above, the STA-3/4 project, together with the EAA BMPs, was designed to achieve a long-term annual average flow-weighted TP outflow concentration of 50 ppb. This design was based on the S-7/S-2 and S-8/S-3 drainage basin flows, Lake Okeechobee regulatory and BMP releases, diversions from the SSDD and SFCD and the C- 139 Basin, average annual discharge values, long-term flow-weighted mean TP concentrations and analytical methodologies presented in the Conceptual Design. That objective is expected to be reached by operating the system in accordance with the following guidelines:

1. Anticipated Rainfall Ranges (upper and lower limits)

It is expected that the project shall operate in a normal operating mode when the EAA basin annual rainfall values, as defined in Rule 40E-63, F.A.C., are within the range of 35.1 inches to 63.8 inches. These values are based on the minimum and maximum EAA basin annual rainfall values for the 1979-88 design period of record.

2. STA Source Inflow Variations

The average annual inflow volume into STA-3/4 was estimated during the period of record (1965-1995) is 660,899 acre-feet. However, during normal operations, annual inflow volumes and associated phosphorus loads into STA-3/4 are expected to fluctuate in response to variations in upstream rainfall and runoff. The minimum and maximum annual average flows for this period of record were 236,892 ac-ft and 1,250,096 ac-ft, respectively. This represents a variation of -64.2% to + 189% of the average flow.

The average annual flow into STA 3/4 from Lake Okeechobee is 232,272 acre-feet. This includes Lake Okeechobee regulatory releases, BMP make-up water and water supply to maintain minimum water depths in the STA. The minimum and maximum annual average flows for this period of record were 55,585 ac-ft and 746,600 ac-ft, respectively. This represents a variation of -76% to + 322% of the average flow.

3. Phosphorus Load Variations

The average annual inflow TP load from the S-7/S-8 basins to the EPA for the period of record (1965-1995) to STA-3/4 were estimated during design to be approximately 47,460



kg. The minimum and maximum annual average loads for this period of record were 24,348 kg and 127,644 kg, respectively. This represents a variation of -61% to + 269% of the average loads. During normal project operations this load value is expected to fluctuate with variations in inflow volumes.

The average annual TP load into STA 3/4 from Lake Okeechobee is approximately 9,100 kg. This includes Lake Okeechobee regulatory releases, BMP make-up water and water supply to maintain minimum water depths in the STA.

4. Inflow Capacity

Pump Stations G-370 and G-372 are the primary inflow structures for the overall STA-3/4 project. The total design inflow to STA-3/4 is 6,475 cfs. Pump Station G-370 has a design inflow of 2,775 cfs, while G-372 has a design inflow of 3,700 cfs.

5. Outflow Capacity

S-7 and S-8 pump stations are the primary outflow structures for the project. During normal project operations, these structures will be operated to provide a maximum outflow capacity of 6,650 cfs.

6. Anticipated BMP Performance

During normal project operation, after the start-up and stabilization phases of operation, the District shall manage interior water levels to maintain marsh vegetation within the treatment system in a mature and productive condition. It is expected that native emergent macrophyte species will be found within the cells will be maintained at a depth that supports submerged aquatic vegetation (SAV). The percentages of cattail, SAV and other vegetative coverage will fluctuate in response to variations in climatic, biological and inflow water quality and quantity conditions. The District and other parties are presently evaluating alternative vegetation treatment systems for optimizing performance in the STAs.

7. Operating Levels

Subject to water availability, the minimum target operating level for STA-3/4 during normal project operation is 0.5 feet above average ground elevation in the cells. The maximum target operating level for STA-3/4 during normal project operations is 4.5 feet above average ground elevation. The optimal long-term target operating range for STA-3/4 during normal project operations is between 1.5 and 2.0 feet above average ground elevation.

NOTE: The perimeter (exterior) levees have been designed and constructed to provide adequate freeboard to maintain levee structural integrity and to withstand the effects of



severe rainfall events, wind setup and wave action. To ensure that water levels within STA-3/4 do not create adverse impacts to adjacent lands to the north, a seepage control canal is an integral part of the project

8. Preventive Maintenance

Preventive maintenance of STA-3/4 project features may be required on a routine basis to avert severe property damage, maintain upstream flood protection and ensure continued functionality and efficiency of the conveyance and treatment systems. During preventive maintenance, individual treatment cells may be temporarily taken off-line and/or water levels within treatment cells may be adjusted through operations of various project structures. To minimize the impacts to operation during times of preventive maintenance, the District shall lower stages to minimal levels and/or take treatment cells off-line independently, for as short a period of time necessary to complete maintenance activities. Specific maintenance activities will include:

a. Water Control Structure Maintenance

In order to ensure operational readiness, pump stations S-7, S-8, G-370 and G-372 are required to operate to 2 to 4 hours per month to maintain the pumps' mechanical integrity. The District shall operate the STA-3/4 pump stations accordingly for startup and maintenance purposes unless the Department takes agency action to prohibit such discharges. All maintenance discharges will be reported in accordance with the monitoring requirements of the STA-3/4 permit.

The District shall also maintain other project water control structures to ensure that culverts and risers are conveying prescribed volumes and that gated weirs are functioning properly. Similarly, the District shall service pump stations routinely to ensure that pumps are functioning properly and not leaking contaminants into upstream or downstream waters.

b. Levee and Canal Maintenance

The District shall maintain all levees to best ensure continued structural integrity. Activities shall include maintenance of cover vegetation through regular mowing and/or appropriate use of herbicides. Levees will also be inspected regularly in response to factors such as rapid changes in flow rates, high water stages, normal wear and tear, or any other factor which could cause levee destabilization. Project canals will be maintained via periodic dredging, as needed to restore water conveyance and depths to design criteria.



c. Vegetative Maintenance

The District shall control invasive and/or exotic plant species through periodic use of approved herbicides both inside the treatment system and along the project perimeter. Vegetative maintenance shall also include physical removal of excess vegetation at inflow, outflow and interior locations to ensure adequate conveyance.

B. DEVIATION FROM NORMAL OPERATIONAL GUIDELINES

Under some circumstances beyond the control of the District, operation of STA-3/4 may deviate from normal operation guidelines. Under those circumstances, including those defined below, the District shall take measures to minimize any adverse downstream impacts, and to avoid continued deviations from the normal operation of the STA-3/4 project. During these deviations from normal operation guidelines, every consideration shall be given to minimizing impacts within and downstream of the treatment area.

1. Excessive Rainfall or Flooding Conditions.

When waters at the interior of the treatment cells reach critical depths (identified below) due to excessive rainfall or flooding conditions, or when an oncoming storm event is expected to cause interior waters to approach or exceed these depths, the District may divert some of the additional inflows through the G-371 and G-373 diversion structures. Accordingly, the District may divert water from flowing into the STA-3/4 treatment cells when any of the four factors listed below occur, creating unavoidable conditions that could cause loss of life, personal injury, or severe property damage.

The District shall keep records of all diversions, including the date, flow, duration, and conditions warranting the diversion. Those records will be included in the annual report submitted to the Department

a. Maximum Stage Elevations.

When waters at interior structures within the STA-3/4 Project reach stage elevations at a depth of 4.5 feet the District may divert some of the additional inflows through the G-371 and/or G-373 diversion structures.

b. Threats to Structural Integrity

When stage elevations of waters, or the rates of inflows threaten the structural integrity of the interior and exterior project levees, the District may divert some of the additional inflows through the G-371 and/or G-373 diversion structures; or



c. Threats to Vegetative Survival and Treatment Efficiency

When stage elevations of waters, rates of inflows, or the duration of sustained inundation creates conditions threatening the survival of marsh vegetation and the treatment efficiency of the project, the District may divert some of the additional inflows through the G-371 and/or G-373 diversion structures.

d. G-370 and G0372 Inflow Pump Stations

In the unforeseeable event that the G-370 or G-372 pump stations would become inoperable, the District may divert some or all of the pump station inflows through the G-371 and G-373 diversion structures.

2. Emergency Discharges.

The District shall discharge water from STA-3/4 in accordance with Section 373.439, F.S., including when water conditions within STA-3/4 may damage existing marsh vegetation. The District shall notify the Department within 48 hours of such an occurrence. Such notification shall contain information regarding the circumstances related to the discharge, as well as a projection regarding the anticipated duration of the discharge. In the event any such discharge extends beyond the period specified in the original notification, the District shall notify the Department within 48 hours of the continuation of the discharge, and such notice shall contain additional information regarding the circumstances causing the need for the discharge.

3. Drought Conditions.

In order to preserve the continued viability of the marsh vegetation within STA-3/4 treatment cells, to the maximum extent practicable, the District shall maintain a minimal static water level of 0.5 feet above average interior ground elevation. The District's ability to maintain this minimum water elevation is determined primarily by the availability of water from rainfall within the project and the upstream watershed

4. Vegetative Conditions.

Deviation from normal operation may be caused or necessitated by vegetative conditions as follows:

a. Failure to Achieve Design Performance Criteria

Within 6 months of first discharge from STA-3/4, a baseline vegetation coverage map shall be created, using ground-truthed aerial photographs, and color-coded for cattail, open water, mixed marsh and other vegetation on site. Vegetation is expected to consist



predominantly of cattail, sawgrass and submerged aquatic vegetation and periphyton communities in all cells.

In the event that the STA-3/4 project fails to achieve specified performance criteria, and if vegetative composition is suspected to be a potential factor, a second vegetative coverage map shall be prepared for comparison with baseline vegetative conditions. If necessary, the District shall modify STA-3/4 operations in order to respond to undesirable vegetative conditions.

b. Vegetative Management

During the start-up period, water levels will be kept low to encourage growth of desirable vegetation until the system is capable of achieving its design performance objectives. Thereafter, operational changes may not be made based upon perceived stress to the vegetation unless there is also a drop in system performance or new information is obtained as a result of the District's STA optimization research program.

C. STA-3/4 INTERIM OPERATIONS

1. Background.

STA-3/4 is the fifth wetland treatment systems being constructed to treat water flowing into the Everglades Protection Area. The effort is required by the Everglades Forever Act (EFA), §373.4592, F.S., which was passed by the Florida Legislature in 1994. The EFA expanded the number and effective acreage of the treatment areas contained in the 1991 Settlement Agreement with the United States of America. Based upon the timelines in the 1994 EFA and the 2001 Proposed Modifications to the federal Everglades Settlement Agreement, the STAs will be constructed and begin operation in accordance with a phased schedule. STA-1 East, which is being constructed by the U.S. Army Corps of Engineers is presently projected to begin start-up operation by April 2004; STA-3/4 is anticipated to begin initial flow-through operations in December 2003 and begin full flow-through operations in the following summer. Neither the 1994 Conceptual Design for the STAs, the 1994 EFA nor the 2001 Proposed Modified Settlement Agreement specified what operational steps the District should take during the interim period when some, but not all, of the individual STAs components were functional. However, both the EFA and the Federal Settlement Agreement provide a framework for these interim operations based on overall load reductions.

2. Annual Variability in Flow

The average annual inflow volume of 660,889 acre-feet is taken from the South Florida Water Management Model simulation "BASERR2R". During normal operations, annual inflow volumes and associated TP loads into STA-3/4 are expected to fluctuate in response to variations in upstream rainfall and runoff as discussed above in the *STA*



Source inflow Variations and the *Phosphorus Load Variations* sections. Consistent with the Settlement Agreement and the EFA, the District is also required to offset flow reductions in EAA runoff due to implementation of EAA BMPs. To also be consistent with the intended operations guidelines in the 1994 Conceptual Design, the BMP make-up water will be delivered to the STAs only if available treatment capacity exists. The District's BMP Replacement rule contains the flexibility to reduce delivery to the STAs "when the delivery is likely to cause hydraulic bypass around the STA or otherwise hinder its performance." It is anticipated that BMP replacement water deliveries will be made during the Interim Period.

3. Treatment Objectives of Everglades Restoration

The EFA and Modified Settlement Agreement both have a common objective: to reduce discharges of phosphorus into the Everglades Protection Area. Based upon scientific calculations developed by federal experts, William Walker and Bob Kadlec, operation of all six STAs will reduce phosphorus concentrations and total phosphorus loads reaching the Everglades, when compared with a historic baseline period of 1979-1988. The STAs are expected to remove approximately 70 percent of the influent phosphorus loads (Settlement Agreement, page C-2), and discharges from the STAs are expected to reduce long-term average annual phosphorus concentrations to levels at or below 50 parts per billion (ppb) (February 15, 1994 Conceptual Design, page 1V-2, Settlement Agreement, page C-3). Further, the BMP regulatory component of the control program is expected to reduce phosphorus loads in EAA runoff by at least 25%. In addition, in accord with the EFA, phosphorus loads from the C-139 Basin are not to exceed historic values, based proportionately on the rainfall over the period October 1978 through September 1988. After construction is completed and phosphorus stabilization is achieved at all the STAs, implementation of these two components of the control program together BMPs and the STAs are expected to reduce the overall long-term average phosphorus loading of stormwater from the EAA to the EPA and the Refuge by approximately 80% and 85%, respectively.

4. Maximizing Phosphorus Reductions During the Interim Period.

In order to maximize reductions in phosphorus to the EPA during the interim period prior to the complete implementation and stabilization of the control program when some but not all of the STAs and diversion works are operating at their design conditions the District shall, to the extent consistent with its responsibilities as the local sponsor of the C&SF Project:

- (1) reduce phosphorus loading to the EPA compared to 1979-1988 base period;
- (2) optimize the quantity of waters sent through the STAs, subject to their hydraulic, structural and biological design limitations, consistent with the provisions of this permit. With respect to STA-3/4, waters flowing into STA-3/4



cannot exceed the inflow capacity of 6,475 cfs, upstream flood protection must be maintained, and water depths cannot exceed 4.5 feet unless during extreme rainfall events.

5. Conclusions.

It is essential to understand that these interim operations do not increase the total volume of waters or phosphorus loads flowing to the EPA, and since a large portion of those waters will be treated, the total phosphorus loads will decrease compared to the historic data. The District is committed to achieving the load reductions of the Settlement Agreement, the design objectives of the ECP, and ultimately the restoration of the Everglades. During the interim period prior to completion of all components of the ECP, including the STAs, the District is further committed to optimizing the treatment of phosphorus in the STAs. These interim operations reflect the District's best efforts to achieve those interim objectives.

D. STA OPTIMIZATION

The EFA, §373.4592(4)(d)3, F.S., requires the District to conduct research on optimizing the treatment performance of the STAs, recognizing that additional reductions in TP outflow concentrations, beyond the interim goal of 50 ppb, may be beneficial to the EPA. In accordance with this requirement, current optimization research activities include numerous activities within the test cells located within STA-1 West. Based upon the results of these and other research efforts, the operation of STA-3/4 will be periodically adjusted to optimize treatment efficiency of the project, in accordance with the EFA, §373.4592(9)(g)3, F.S.

VI. COMMITMENT TO WATER QUALITY IMPROVEMENT

A. ULTIMATE COMPLIANCE WITH WATER QUALITY STANDARDS

The District is committed to the implementation of its responsibilities pursuant to the EFA, §373.4592, F.S., and its agreements with the federal government. Water quality conditions both upstream and downstream of the STA-3/4 project will be monitored through a series of programs, including the Best Management Practices permit programs required by Rule 40E-63, F.A.C., the Everglades Stormwater Program required by Florida DEP permit no. 06, 502590709, and the permits for this project. While this project is directed toward compliance with interim water quality goals, the District is supporting an effort to evaluate long-term water quality standards in the EPA. The District is required to achieve compliance with all water quality standards by December 31, 2006, which may require the implementation of additional water quality improvement measures.



B. EMERGENCY SUSPENSION AND RESCHEDULING OF SAMPLING

Under hurricane, tropical storm warnings, or other extreme weather conditions, the District's normal water quality sampling schedule may be suspended and rescheduled, as necessary. The District shall notify the Department's Southeast District and Everglades Technical Support Section at the addresses and telephone numbers listed in the STA-3/4 permit, of any anticipated sampling suspension or rescheduling associated with hurricanes, tropical storms, or other extreme weather events that may require deviation from the normal sampling schedule. The District shall resume the normal sampling schedule as soon as possible. Within 14 days following the cessation of emergency conditions, the District shall notify the Department of when normal sampling is expected to resume.

VII. POLLUTION PREVENTION TEAM

Numerous District personnel will be responsible for the management of this project from the construction phase through the operational phase of the project including, Victor Powell, Mike Curley, Gary Goforth, Maxine Cheesman, Bahram Charkhian, Chad Kennedy, Linda Lindstrom, Larry Fink, Tim Bechtel, Bob Howard, Ron Mierau, George Hwa, Cal Neidrauer, Tom Kosier and Arlin Pankow. The permit administrator for this project is Ron Bearzotti of the Ecosystem Restoration Department and can be reached at (561) 682-6291.

VIII. BASELINE CONDITIONS

Documents evaluating baseline water quality conditions for the EPA, and the STAs have been previously completed and submitted to the Department, including: *Water Quality Criteria in the Everglades Protection Area*, SFWMD (Bechtel, Krupa, Hill, Xue), May 1996 and *the Everglades Nutrient Removal Project Annual Monitoring Report*, SFWMD, 1995, 1996, 1997 and 1998, and the annual *Everglades Consolidated Reports* (SFWMD 1999, 2000, 2001, 2002 and 2003).